

REMARKS/ARGUMENTS

The Applicants have carefully considered this application in connection with the Final Rejection electronically delivered November 1, 2007 and respectfully request reconsideration of this application in view of the foregoing amendment and the following remarks.

The Applicants originally submitted Claims 1-20 in the application. In the present response, the Applicants have amended Claims 1, 7-8, and 14-15 and added Claims 21-22. Support for the amendment can be found, for example, in paragraphs 4, 24, and 28-31 of the original specification. No other claims have been canceled. Accordingly, Claims 1-22 are currently pending in the application.

I. Rejection of Claims 1-20 under 35 U.S.C. §102

Previously, the Examiner rejected Claims 1-20 under 35 U.S.C. §102(e) as being anticipated by U.S. Publication No. 2003/0108117 to Ketchum, *et al.* ("Ketchum"). The Applicants believe the invention as presently claimed, however, is not taught by Ketchum. More specifically, the Applicants fail to find where Ketchum teaches a weighing a symbol vector in the frequency domain based on gains in channels of a MIMO transmitter to yield a weighted symbol vector as now recited in amended independent Claims 1, 8, and 15.

The Examiner cites Figures 1-2, element 120a and paragraphs 59-74 of Ketchum to teach a normalization and precoding subsystem configured to weight a symbol vector based on gains in channels of a MIMO transmitter to yield a weighted symbol vector. (See Final Rejection of November 1, 2007, pages 3 and 5-6.) Claims 1, 8, and 15, however, have been amended to more clearly point out that the weighting of the symbol vector is achieved in the frequency domain.

Ketchum teaches that the signal transmitted on each transmit antenna is formed as a weighted combination of N_R modulation symbol streams and the appropriate column of spatio-temporal pulse-shaping matrix, $\underline{P}_{tx}(l)$. (See, for example, paragraph 71 and Figure 2 elements 120a, 228, and 230.) Thus, since Ketchum teaches the weighting of the symbol vector is accomplished with a spatio-temporal pulse-shaping matrix, the weighting of the symbol vector is achieved in the time-domain.

MPEP §2131 states “a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” As established above, Ketchum does not teach each and every element of presently amended independent Claims 1, 8, and 15. Therefore, Ketchum does not anticipate presently amended independent Claims 1, 8, and 15 and Claims that depend thereon. Accordingly, the Applicants respectfully request the Examiner to withdraw the §102(e) rejection of Claims 1-20 and allow issuance thereof.

Additionally, regarding newly added Claims 21-22, the Applicants fail to find where Ketchum discloses selecting a constellation combination from a group of constellation combinations based on a fixed number of bits transmitted at each transmission of an OFDM MIMO transmitter.

II. Conclusion

In view of the foregoing remarks, the Applicants now see all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicit a Notice of Allowance for Claims 1-22.

The Applicants request the Examiner to telephone the undersigned agent of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 20-0668.

Respectfully submitted,

HITT GAINES, PC

A handwritten signature in black ink that reads "Steven J. Hanke". The signature is written in a cursive, flowing style.

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